

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION**

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HENROB LIMITED,

Plaintiff/Counter-Defendant,

v.

Case No. 05-CV-73214-DT

BÖLLHOFF SYSTEMTECHNICK GMBH & CO.  
and BÖLLHOFF RIVNUT, INC.,  
BAYERISCHE MOTOREN WERKE AG, BMW NA,  
ROLLS-ROYCE MOTOR CARS LTD.  
and ROLLS-ROYCE NA,

Defendants/Counter-Plaintiffs.

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**OPINION AND ORDER DENYING CROSS-MOTIONS FOR SUMMARY JUDGMENT**

This litigation involves two patents, U.S. Patent No. 5,752,305 (the “305 Patent” and U.S. Patent No. 5,779,127 (the “127 Patent”), which deal with the self-piercing riveting technology invented by Plaintiff/Counter-Defendant, Henrob Limited (“Henrob”). On October 25, 2006, the court issued an order pursuant to *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (*en banc*), *aff’d*, 517 U.S. 370 (1996), construing the two Patents. Now before the court are cross-motions for summary judgment: a motion for summary judgment filed on March 23, 2007 by Defendants/Counter-Plaintiffs, Böllhoff Systemtechnik GmbH & Co., and Böllhoff Rivnut, Inc., (collectively “Böllhoff”) and Defendants Bayerische Motoren Werke AG, BMW NA, Rolls-Royce Motor Cars Ltd., and Rolls-Royce NA (collectively “BMW”) and a partial motion for summary judgment filed by Henrob on October 19, 2007. The court has reviewed the briefs and determined that a hearing on the motion is unnecessary. See

E.D. Mich. LR 7.1(e)(2). For the reasons set forth below, the court will deny both motions.

## **I. BACKGROUND**

On March 23, 2007, prior to the commencement of discovery, Defendants filed their motion for summary judgment of non-infringement of the '305 Patent. Defendants' motion is premised entirely on the court's construction of a phrase found in each of the independent claims of the '305 Patent. The phrase requires that claimed device contain a "clamping force being sufficient to prevent sheet material from being drawn laterally inwards towards the rivet." The court construed this phrase to mean that the riveter or riveting method "significantly restrict the inward, lateral flow of sheet material that is subject to the clamping force." (10/25/06 Order at 38-40.) Now, Defendants argue that they are entitled to summary judgment because "[a]s shown by scientific testing, it is undisputable that Böllhoff's self-pierce riveter, and the riveting method performed with that riveter, do not 'significantly restrict the inward, lateral flow of sheet material that is subject to the clamping force,' as required by each of the independent claims of the '305 Patent." (Defs.' Mot. for Sum. J. at 1.) In order to support their motion, Defendants relied on the tests performed by Böllhoff's experts, Drs. Ulm and Flügge, who concluded that the clamping forces in Böllhoff's machines do not significantly decrease lateral flow, as compared to the prior art spring clamping riveter.

On July 13, 2007, Böllhoff submitted a supplemental brief after it discovered that the tests performed by Drs. Ulm and Flügge were flawed, in that they measured the inward lateral flow at a location which was not subject to the clamping force. (Defs.' Supp. Br. at 3-4.) The experts conducted their tests again, this time measuring the

inward flow at a location within the clamping area. As with their prior tests, they concluded that the clamping forces in Böllhoff's machines do not significantly decrease lateral flow, as compared to the prior art spring clamping riveter. (*Id.* at 6-9.) Instead, Böllhoff's experts conclude that:

[T]he main parameters that appear to have any effect on the amount of inward, lateral material flow that occurs during the riveting operation are the location at which the amount of flow is measured, relative to the rivet insertion location, in addition to the parameters that relate to the sheet material thickness, the type of die used and the type of rivet used – but **not** the pre-clamping force that is used.

(*Id.* at 9 (emphasis in original).)

After conducting discovery related to Defendants' motion for summary judgment, Henrob filed its response on October 18, 2007, along with a cross-motion for partial summary judgment. In its response, Henrob purportedly submits evidence to rebut Defendants' claim that Böllhoff's machines do not significantly restrict the inward lateral flow of sheet material that is subject to the clamping force. Specifically, Henrob's expert, Dr. Hu, performed three different tests on various Böllhoff machines and concluded that the force applied by Böllhoff's machines actually does significantly restrict the inward, lateral flow of sheet material. Further, Dr. Hu avers in his declaration that the tests conducted by Defendants were flawed. Henrob therefore argues that genuine issues of material fact preclude the entry of summary judgment.

In Henrob's cross motion for summary judgment, Henrob argues that it is entitled to partial summary judgment on the remaining elements not challenged by Defendants in their summary judgment motion.

## II. STANDARD

Under Federal Rule of Civil Procedure 56, summary judgment is proper when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). “In deciding a motion for summary judgment, the court must view the evidence in the light most favorable to the non-moving party, drawing all reasonable inferences in that party’s favor.” *Sagan v. United States*, 342 F.3d 493, 497 (6th Cir. 2003). “Where the moving party has carried its burden of showing that the pleadings, depositions, answers to interrogatories, admissions and affidavits in the record, construed favorably to the non-moving party, do not raise a genuine issue of material fact for trial, entry of summary judgment is appropriate.” *Gutierrez v. Lynch*, 826 F.2d 1534, 1536 (6th Cir. 1987) (citing *Celotex Corp. v. Catrett*, 477 U.S. 317 (1986)).

The court does not weigh the evidence to determine the truth of the matter, but rather, to determine if the evidence produced creates a genuine issue for trial. *Sagan*, 342 F.3d at 497 (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986)). The moving party must first show the absence of a genuine issue of material fact. *Plant v. Morton Int’l, Inc.*, 212 F.3d 929, 934 (6th Cir. 2000) (citing *Celotex*, 477 U.S. at 323). The burden then shifts to the nonmoving party, who “must do more than simply show that there is some metaphysical doubt as to the material facts.” *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986). They must put forth enough

evidence to show that there exists a genuine issue to be decided at trial. *Plant*, 212 F.3d at 934 (citing *Anderson*, 477 U.S. at 256).

The existence of a factual dispute alone does not, however, defeat a properly supported motion for summary judgment – the disputed factual issue must be material. See *Anderson*, 477 U.S. at 252 (citation omitted) (“The judge’s inquiry, therefore, unavoidably asks whether reasonable jurors could find by a preponderance of the evidence that the plaintiff is entitled to a verdict – ‘whether there is [evidence] upon which a jury can properly proceed to find a verdict for the party producing it, upon whom the *onus* of proof is imposed.’”). A fact is “material” for purposes of summary judgment when proof of that fact would establish or refute an essential element of the claim or a defense advanced by either party. *Kendall v. Hoover Co.*, 751 F.2d 171, 174 (6th Cir. 1984) (citation omitted).

### **III. DEFENDANTS’ MOTION FOR SUMMARY JUDGMENT**

“Analysis of infringement involves two steps.” *Searfoss v. Pioneer Consol. Corp.*, 374 F.3d 1142, 1148 (Fed. Cir. 2004). First, the district court construes the claims of the patent, determining their scope and meaning. *Id.*; *Markman*, 517 U.S. at 372-74. Second, the claims, as construed by the court in step one, are compared limitation by limitation to the features of the allegedly infringing device. *Johnson v. Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 988 (Fed. Cir. 1999). The court accomplished step one in its October 25, 2006 claim construction order.

Literal infringement occurs only if each limitation of the claim is present in the accused device. *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1330 (Fed. Cir. 2001); *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1389 (Fed. Cir.

1992). Any deviation from the claim precludes a finding that the accused device infringes. *Telemac*, 247 F.3d at 1330 (citing *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 532 (Fed. Cir. 1996)). In Defendants' motion for summary judgment, they focused solely on whether their device infringed the limitation regarding the effect of the clamping force.

The patent holder has the burden of proof to establish infringement. See, e.g., *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1325 -26 (Fed. Cir. 2004) ("Because [the patent holder] bears the burden of establishing infringement at trial, in moving for summary judgment [the alleged infringer] need only establish a deficiency concerning an element of [the patent holder's] infringement claim."); *Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997). Whether a particular device infringes a properly construed claim generally presents a question of fact. See *Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 149 F.3d 1309, 1315 (Fed. Cir. 1998). "As such, it is amenable to summary judgment where . . . no reasonable fact finder could find infringement." *Id.* (citing *Warner-Jenkinson, Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997)); see also *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995).

As outlined above, Defendants' motion focuses on whether Henrob can prove that Böllhoff's machines "significantly restrict the inward, lateral flow of sheet material that is subject to the clamping force," as required by the court's claim construction order. In support of their motion, Defendants have proffered the July 7, 2007 lab report of Drs. Ulm and Flügge (Defs.' Ex. I), along with a supplemental declaration of Dr. Ulm (Defs.' Ex. II).

Ex. J).<sup>1</sup> In response, Henrob has submitted evidence which Henrob contends creates a jury question on the issue of infringement. Specifically, Henrob has submitted declarations which contend that Drs. Ulm and Flügge's tests were flawed. Henrob also submits declarations regarding tests which Henrob performed that purportedly demonstrate that Böllhoff's machines do indeed "significantly restrict the inward, lateral flow of sheet material that is subject to the clamping force."

In their reply, Defendants challenge Henrob's arguments, implying that Henrob is merely using "smoke and mirrors" in an attempt to create the existence of a triable issue of fact. Defendants assert that Henrob's tests and conclusions are so inherently flawed, irrelevant or improper that they could not be relied upon by a jury.

The court is placed, therefore, in the tenuous position of evaluating the substance of the parties' competing evidence to determine whether a reasonable jury could find in favor of Henrob. In so doing, the court must be careful not to *weigh* the evidence but, rather, to evaluate if the evidence produced creates a genuine issue for trial. *Sagan*, 342 F.3d at 497 (quoting *Anderson*, 477 U.S. at 249). Summary judgment is, of course, not appropriate when "the evidence presents a sufficient disagreement to require submission to a jury." *Anderson*, 477 U.S. at 251-52 (1986).

#### **A. Henrob's Tests**

In support of its response brief, Henrob submitted the results of three tests performed by its expert, Dr. Hu, on various riveting machines. When examining each of

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<sup>1</sup>As discussed above, Defendants originally relied on testing conducted by Drs. Flügge and Ulm in December, 2006. After certain flaws were identified in those tests, Defendants submitted supplemental briefing that relied upon updated tests.

these machines, Dr. Hu conducted three different types of tests: (1) a Long Strip Multi-Rivet (“LSMR”) test, (2) a Scribed Line test, and (3) a Drilled Hole test. The machines tested were located on the production line of BMW in Germany, at Contech (a BMW supplier) in Tennessee, and at Henrob’s own facilities in the United Kingdom. Defendants challenge all of Henrob’s tests, and the court will address them each in turn.

### **1. August 23 and 24, 2007 Tests at Henrob**

On August 23 and 24, 2007, Henrob conducted tests on Henrob machines, which Henrob contends have the same key dimensions as Böllhoff’s setters and provide equal setting and clamping forces. (Pl.’s Resp. at 19.) Henrob submits testimony that Henrob’s machines can be configured to reliably replicate Böllhoff’s machines, and that the tests reveal that the clamping force exerted by the machine results in either a significant restriction or even no measurable inward lateral flow of material. (*Id.* at 20-21.)

Defendants argue that these tests are completely irrelevant and therefore inadmissible because they were conducted, not on a Böllhoff machine, but on a Henrob machine. (Defs.’ Reply at 14-15.) Defendants challenge Henrob’s position that the machines can actually be configured to replicate a Böllhoff machine. Defendants also contend that Henrob’s tests were fatally flawed, and thus inadmissible, because when Henrob performed its comparison test with a prior art spring riveter, it did not use the correct variables. (*Id.* at 15-18.) Specifically, Defendants argue that when their experts conducted tests on Böllhoff machines and spring riveters, they used the “correct testing procedures” by ensuring that the rivets were inserted to the substantially same depth. (*Id.* at 15-16.) Defendants contend that inserting the rivets to the same depth ensures



that the test is accurately determining the effect of the clamping force on the inward, lateral material flow as opposed to some other variable. According to Defendants, Henrob's tests fail to isolate the effect of the clamping force, as required by the '305 Patent.

While the court finds Defendants' arguments persuasive to challenge Henrob's conclusions and attack Dr. Hu's credibility, the court cannot find that Henrob's tests are so inherently flawed that they are inadmissible. Defendants may be able to persuade a jury that their tests more efficiently isolated the effect of the clamping force of a Böllhoff machine, but Henrob has presented at least some evidence on which a jury could find in its favor. According to Dr. Hu, his tests attempted to isolate all other variables in order to determine the effect of the clamping force. (Hu Dec. at ¶ 55.) While it may be preferable to isolate the effect of the clamping force in the manner Defendants describe, the court does not find that it is *necessary* to prove Henrob's claim of infringement. It is enough at this stage that Henrob has produced evidence, in the form of Dr. Hu's expert opinion, that can be relied upon to prove infringement. The court rejects Defendants' argument that the August 23 and 24, 2007 tests are so flawed as to be irrelevant and therefore inadmissible.

## **2. September 6, 2007 Test at Contech**

Similarly, the court rejects Defendants argument that Henrob's test of a Böllhoff riveter in Contech, Tennessee was improper. Defendants argue that the tests in Contech were on a model which Böllhoff stopped selling in 2001. (Defs.' Reply at 18-19.) Further, Defendants contend that Henrob's tests of the Contech riveter, which Dr. Hu did not personally supervise, were flawed because of the substantial modifications

made to the riveter. (*Id.* at 18-19.) Moreover, after reviewing photographs of the riveted coupons created by Henrob's employees during the Contech testing, Defendants suggest that the tests were not done with a standard Böllhoff clamping structure. (*Id.* at 20-21.) Finally, Defendants reiterate their objections to the testing procedures used by Henrob, arguing that the riveter was more deeply inserted during the tests of the Contech riveter than as was inserted with the prior art spring riveter. (*Id.* at 22.)

The court finds that Böllhoff's objections go to the weight, not the admissibility, of Henrob's test of the Contech riveter. The court cannot find, based on the record presented thus far, that Dr. Hu's methods were so inherently flawed so as to render his ultimate conclusion inadmissible.

### **3. September 29 Tests at BMW**

Henrob also relies on tests performed on September 29, 2007 on BMW's production line. Defendants again challenge the legitimacy of these tests, arguing that Dr. Hu failed to properly isolate the effect of the clamping force by using the wrong comparables. (Defs.' Reply at 23.) As before, the court is not convinced that Dr. Hu's testing analysis or conclusions are deficient as a matter of law. While Defendants are free to challenge Dr. Hu's methods and conclusions to the jury, a reasonable jury could nonetheless accept Dr. Hu's opinion that the accused Böllhoff machines use a clamping force of a sufficient magnitude to "significantly restrict the inward lateral flow of sheet material that is subject to the clamping force."

The effect of Henrob's tests, whether viewed individually or collectively, is a situation in which the parties have competing expert opinions on whether the accused Böllhoff machines infringe the '305 Patent. Henrob has therefore overcome its burden

of demonstrating that there exists a genuine issue to be decided at trial. *Plant*, 212 F.3d at 934 (citing *Anderson*, 477 U.S. at 256). Defendants' motion must be denied.

### **B. Defendants' Tests**

In Henrob's response, it also attacks the validity of Defendants' tests, in an effort to show the existence of a triable fact. Defendants argue that Henrob's attacks are simply "wrong," and that Henrob cannot create a triable fact in this manner. (Defs.' Reply at 9.) Because the court has already found that Henrob's tests create a triable issue of infringement, it is not necessary to also determine whether Defendants' tests were proper. Nonetheless, having reviewed the briefs, the court is not persuaded that Henrob's attacks are "wrong" as a matter of law. Henrob's expert raises legitimate concerns about the "anomalies in the timing and amount of the clamping force" used by Defendants. (Pl.'s Resp. at 25.) Defendants have not shown that Dr. Hu's testing methods were themselves unreliable or applied unreliably so as to render his opinion testimony inadmissible under Federal Rules of Evidence 702 or 703. The court rejects Defendants' argument that Dr. Hu's opinions are mere speculation, and instead considers them the result of a reasoned expert analysis. This is not to say that the jury could not reject Dr. Hu's opinion for the reasons asserted by Defendants' experts. The

court only finds that the competing views of Defendants' testing methods raise an issue of fact for the jury to sort out.<sup>2</sup>

### C. Doctrine of Equivalents

"Even where an accused device falls outside the literal bounds of a claim, it may still infringe under the doctrine of equivalents if every claim element is literally or equivalently present in the accused device." *Sage Products, Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1429 (Fed. Cir. 1997). The doctrine of equivalents allows the patentee to claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes. See generally *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002). Under the doctrine of equivalents, "[a]n element in the accused product is equivalent to a claim limitation if the differences between the two are 'insubstantial' to one of ordinary skill in the art." *Eagle Comtromics, Inc. v. Arrow Commc'n Labs., Inc.* 305 F.3d 1303, 1315 (Fed Cir. 2002). Infringement under the doctrine of equivalents, however, "requires that the accused product contain each limitation of the claim or its equivalent." *Id.* (citing *Warner-Jenkinson*, 520 U.S. at 40). "[I]n every infringement analysis, the language of

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<sup>2</sup>For this reason, the court rejects Defendants' alternative argument that their motion should be granted, at least, with respect to the post-2001 Böllhoff riveters tested by Defendants. First, the court has rejected the predicate for this argument (namely, that no issue of fact exists with respect to these machines). Additionally, while the court normally applauds attempts to narrow the issues for trial, the progression of briefs in this litigation did not afford Henrob adequate opportunity to address this alternative argument. Defendants' opening brief sought complete summary judgment with respect to all of Böllhoff's machines. Henrob adequately rebutted this argument with its own tests and opinions. Defendants' argument, found in the reply, that Henrob has not addressed a *specific* machine, therefore, does not provide a basis, under these circumstances, to narrow the issues for trial.

the claims, as well as the nature of the accused product, dictates whether an infringement has occurred.” *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1118 (Fed. Cir. 2002).

In their motion for summary judgment, Defendants also assert, in a one-page argument, that Henrob cannot show infringement through application of the doctrine of equivalents. (Defs.’ Mot. Br. at 20.) Because the court has found a triable issue of fact of literal infringement, the court need not determine whether Henrob could alternatively show infringement under the doctrine of equivalents. While Defendants’ argument may be the subject of a future motion *in limine*, the court is not convinced at this stage of the litigation that the factual record, or for that matter the legal argument, on this issue has been adequately presented to the court.<sup>3</sup>

#### **IV. HENROB’S CROSS-MOTION FOR PARTIAL SUMMARY JUDGMENT**

In Henrob’s cross-motion for partial summary judgment, Henrob contends that it is entitled to partial summary judgment of infringement. According to Henrob, Defendants have admitted that they are infringing the ‘305 Patent in all aspects except the one on which Defendants’ motion is based (regarding the effect of the clamping force). (Pl.’s Mot. Br. at 8.) Henrob cites two manners in which Defendants have “admitted” their infringement. First, Henrob contends that during the status conference in which Defendants informed the court that they intended to file a summary judgment motion, Defendants allegedly stated that this was their only non-infringement contention. The court has no independent recollection of this purported admission and,

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<sup>3</sup>It is insufficient for Defendants to simply incorporate by reference their argument from their previous *Markman* briefs.

in any event, the court will not bind counsel to off-the-record predictions made prior to discovery under the circumstances present in this case. Next, Henrob points to Defendants' responses to interrogatories, in which Henrob asked for all of Defendants' non-infringement contentions and Defendants pointed only to their current summary judgment motion. Contrary to Henrob's argument, however, this response was appropriate given that the court specifically limited discovery to what was necessary to respond to Defendants' motion for summary judgment. (4/12/2007 Order at 1.) It is therefore unremarkable, and certainly not an "admission," that Defendants restricted their response to the pending summary judgment motion.

Inasmuch as Henrob has failed to establish the absence of a genuine issue of fact, and full discovery has not yet been completed, the court will deny Henrob's motion.

#### **V. CONCLUSION**

For the reasons stated above, IT IS ORDERED that Defendants' motion for summary judgment [Dkt. # 91] and Henrob's cross-motion for partial summary judgment [Dkt. #130] are DENIED.

Counsel are DIRECTED to consult and negotiate a proposed schedule for the completion of this litigation. The joint proposal should be submitted to the court no later than seven days from the date of this order. In the event the parties cannot agree on a schedule, the joint proposal should briefly explain the divergent views.

S/Robert H. Cleland  
ROBERT H. CLELAND  
UNITED STATES DISTRICT JUDGE

Dated: November 30, 2007

I hereby certify that a copy of the foregoing document was mailed to counsel of record on this date, November 30, 2007, by electronic and/or ordinary mail.

S/Lisa Wagner  
Case Manager and Deputy Clerk  
(313) 234-5522